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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,304	01/23/2002	Pascal Roncalez	120113.401	9761

500 7590 05/21/2003

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EXAMINER

SOTOMAYOR, JOHN

ART UNIT	PAPER NUMBER
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3714

DATE MAILED: 05/21/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/056,304

Applicant(s)

RONCALEZ ET AL. 66

Examiner

John L Sotomayor

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 24 recites the limitation "determine the identification of the movement of the human body about the first and second axes" in the second section of the claim where a single vertical axis is disclosed in the first portion. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-3, 17-18, 20, 24 and 30 are rejected under 35 U.S.C. 102(a) as being anticipated by Hutchings (US 6,305,221).

4. Regarding claim 1, Hutchings discloses a sensor assembly comprising at least one static acceleration sensor to be mounted to the human body and generating at least one static acceleration signal, a processor coupled to the sensor assembly configured to determine at least a movement identification in response to the acceleration signal (Col 4).

5. Regarding claim 2, Hutchings discloses a sensor assembly comprising at least a first and a second static acceleration sensor to be mounted to the human body and generating at least a first and a second static acceleration signal, a processor coupled to the sensor assembly

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configured to determine at least a movement identification in response to the first and second acceleration signals (Col 4).

6. Regarding claim 3, Hutchings discloses a processor and display device configured to provide a new and improved three-dimensional tracking of extremities (Col 5, lines 62-65).

7. Regarding claim 17, Hutchings discloses a sensor assembly configured to be mounted to the human body and configured to generate acceleration signals about a first axis parallel to the direction of travel and a second axis perpendicular to the first (fig 3), a processor configured to receive first and second signals and determine at least a movement type and a movement pattern (Col 4), and a display device couple to the processor to display at least the movement type and movement pattern (fig 16).

8. Regarding claim 18, Hutchings discloses a display device configured to display real-time, continuous information regarding movement type and movement pattern (Col 2, lines 60-67, Col 3).

9. Regarding claim 20, Hutchings discloses a sensor apparatus configured to be mounted to a human body to generate first and second signals corresponding to acceleration about first and second axes, respectively (Col 5), and a processor and output device to receive the first and second signals to output real-time, continuous information including an identification of the movement patterns and variations in movement patterns over time (Col 5 and Col 6, lines 1-30).

10. Regarding claim 24, Hutchings discloses mounting a plurality of accelerometers to the human body configured to generate signals corresponding to variations in the position of the accelerometers with respect to the vertical axis, and receiving the signals from said accelerometers and processing the signals to determine the identification of the movement of the

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human body about the vertical axis and changes in the movement over time (Col 5, lines 13-67 and Col 6, lines 1-30).

11. Regarding claim 30, Hutchings discloses sensing repetitive movement of a selected area of the human body about a first and second axis and generating first and second acceleration signals, processing said signals to identify movement count, movement type, and to provide a display signal, and receiving the display signal and displaying repetitive movement pattern corresponding to the first and second signals (Col 5 and 6).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claims 4-5,8-10,19,21,25 and 26, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchings in view of Kaufman (US 6,251,048).

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15. Regarding claims 4 and 26, Hutchings does not specifically disclose an apparatus and method configured to display the breathing pattern of a human body. However, Kaufman teaches an exercise apparatus configured to monitor and display the breathing pattern of a person performing an exercise (Col 4, lines 58-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide an exercise apparatus configured to monitor and display the breathing pattern of a person performing an exercise. Combining the apparatus disclosed by Hutchings with the teaching of Kaufman produces an exercise system configured to allow a user to monitor a number of biometric parameters during exercise, such as breathing pattern, to improve the exercise effectivity.

16. Regarding claims 5, 8 and 21, Hutchings does not specifically disclose an apparatus configured to display the breathing pattern (claims 5, 8 and 21) of a human body or a swimmer's stroke pattern (claim 5). However, Kaufman teaches an exercise apparatus configured to monitor and display the breathing pattern of a person performing an exercise (Col 4, lines 58-67) and a swimmer's physical parameters (Col 6, lines 18-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide an exercise apparatus configured to monitor and display the breathing pattern and stroke pattern of a swimmer. Combining the apparatus disclosed by Hutchings with the teaching of Kaufman produces an exercise system configured to allow a user to monitor a number of biometric parameters during exercise, including breathing and stroke patterns, to improve a swimmer's ability.

17. Regarding claim 9, Hutchings does not specifically disclose a device adapted for use with a swimmer. However, Kaufman teaches an exercise device that may be attached to a human

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body is adapted for use by a swimmer (Col 6, lines 18-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide an exercise device with accelerometers positioned to measure at least one vertical axis and an axis parallel to the first axis adapted for use by a swimmer. Combining the apparatus disclosed by Hutchings with the teaching of Kaufman produces an exercise system configured as an exercise device with accelerometers positioned to measure at least one vertical axis and an axis parallel to the first axis adapted for use by a swimmer to improve a swimmer's ability.

18. Regarding claim 10, Hutchings discloses a device in which the first and second axes are positioned parallel to the surface of the earth (fig 1).

19. Regarding claim 19, Hutchings does not specifically disclose a device configured to generate audible sounds corresponding to at least movement type and movement pattern. However, Kaufman teaches a device with a sound generation circuit configured to generate audible sounds corresponding to physical activity of a plurality of exercises (Col 5, lines 1-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide an audible capability configured to generate audible sounds corresponding to at least movement type and movement pattern. Combining the device disclosed by Hutchings with the teaching of Kaufman produces an exercise system configured to provide audible check points and encouragement to assist a user in exercise improvement.

20. Regarding claim 25, Hutchings discloses a method for mounting a sensor to an athlete's body with sensors to detect and track movement along at least two axes parallel to one another and generating at least two signals therefrom, receiving and processing the signals to determine variations over time and real time, continuous observable output of the variations (Col 4 and fig

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16). Hutchings does not specifically disclose that the athlete is a swimmer. However, Kaufman discloses an exercise method which may be used by a plurality of athletes, including swimmers (Col 6, lines 18-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide an exercise method for mounting a sensor to a swimmer's body with sensors to detect and track movement along at least two axes parallel to one another and generating at least two signals therefrom, receiving and processing the signals to determine variations over time and real time, continuous observable output of the variations. Combining the method disclosed by Hutchings with the teaching of Kaufman produces an exercise system for allowing continuous improvement of a swimmer's technique.

21. Claims 6-7, 11-16 and 27-29, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchings in view of Kaufman in further view of Miley (US 5,921,890).

22. Regarding claims 6 and 28, Hutchings does not disclose nor does Kaufman teach an exercise device or method with a processor configured to determine and display a swimmer's stroke pattern. However, Miley teaches an exercise device with a processor configured to determine parameters associated with swimming, including stroke pattern and stroke count (Col 2, lines 50-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide an exercise device with a processor configured to determine parameters associated with swimming, including stroke pattern and stroke count. Combining the device disclosed by Hutchings with the teachings of Kaufman and Miley produces an exercise device that may be used to improve a swimmer's ability to control stroke movement.

23. Regarding claims 7 and 27, Hutchings does not disclose nor does Kaufman teach an exercise device or method with a processor configured to determine and display a swimmer's

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stroke pattern. However, Miley teaches an exercise device with a processor configured to determine parameters associated with swimming, including stroke pattern and stroke count (Col 2, lines 50-67). The kick is an inherent portion of the stroke, therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide an exercise device with a processor configured to determine parameters associated with swimming, including kick pattern and kick count. Combining the device disclosed by Hutchings with the teachings of Kaufman and Miley produces an exercise device that may be used to improve a swimmer's ability to control stroke movement.

24. Regarding claims 11, 12, and 29, Hutchings does not disclose nor does Kaufman teach an exercise device with a processor configured to determine and display a swimmer's movements (claims 11 and 22) including stroke pattern (claims 12 and 29). However, Miley teaches an exercise device with a processor configured to determine parameters associated with swimming (Col 2, lines 50-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide an exercise device with a processor configured to determine parameters associated with swimming, including stroke pattern, stroke count, stopping and reversing to turn. Combining the device disclosed by Hutchings with the teachings of Kaufman and Miley produces an exercise device that may be used to improve a swimmer's ability.

25. Regarding claims 13 and 14, Hutchings discloses an exercise device with a transmitting means with at least a bus for conveying data from the processor to the communication device (claim 13) and a transmitting means with a radio frequency transmitter for conveying data from the processor to the communication device (claim 14) (fig 16, Hutchings).

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26. Regarding claims 15, Hutchings does not disclose an earpiece configured to convey audible sounds corresponding to at least the swimmer's stroke type and stroke pattern. However, Kaufman teaches transmitting audible sounds (Abstract) and Miley discloses that these audible sounds may be transmitted to a swimmer through an earpiece (Col 3, line 41 to Col 4, line.6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide an exercise device with an earpiece configured to convey audible sounds corresponding to at least the swimmer's stroke type and stroke pattern. Combining the device disclosed by Hutchings with the teachings of Kaufman and Miley produces an exercise device that may be more easily worn and monitored by a swimmer.

27. Regarding claims 16, Hutchings discloses an exercise device with a transmitting means for conveying data from the sensor assembly to the processor (fig 16, Hutchings).

28. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchings in view of Miley.

29. Regarding claim 22, Hutchings does not disclose an exercise device with a processor configured to determine and display a swimmer's movements (claim 22). However, Miley teaches an exercise device with a processor configured to determine parameters associated with swimming (Col 2, lines 50-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide an exercise device with a processor configured to determine parameters associated with swimming, including stroke pattern, stroke count, stopping and reversing to turn. Combining the device disclosed by Hutchings with the teaching of Miley produces an exercise device that may be used to improve a swimmer's ability.

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30. Regarding claim 23, Hutchings does not specifically disclose a device configured to generate audible sounds corresponding to at least movement type and movement pattern. However, Kaufman teaches a device with a sound generation circuit configured to generate audible sounds corresponding to physical activity of a plurality of exercises (Col 5, lines 1-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide an audible capability configured to generate audible sounds corresponding to at least movement type and movement pattern. Combining the device disclosed by Hutchings with the teaching of Kaufman produces an exercise system configured to provide audible checkpoints and encouragement to assist a user in exercise improvement.

Conclusion

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Geiser (US 5,864,518) for a discussion of device and method for analyzing a swimmer's stroke in real-time.

32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John L Sotomayor whose telephone number is 703-305-4558. The examiner can normally be reached on 6:30-4:00 M-F.

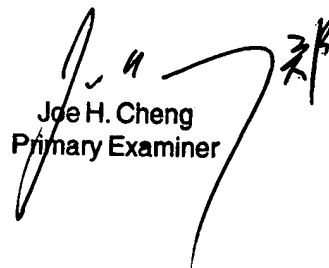
33. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Hughes can be reached on 703-308-1806. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-8361 for regular communications and 703-746-8361 for After Final communications.

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34. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4558.

jls

May 14, 2003


Joe H. Cheng
Primary Examiner